

Report Date:  
19-Oct-18 16:18

## Laboratory Report SC50929

Gulf Oil L.P.  
281 Eastern Avenue  
Chelsea, MA 02150  
Attn: Andrew P. Adams

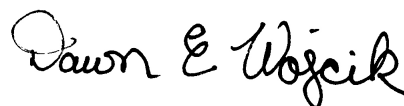
Project: Gulf Terminal - Chelsea, MA  
Project #: [none]

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.  
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110  
Connecticut # PH-0777  
Florida # E87936  
Maine # MA138  
New Hampshire # 2972/2538  
New Jersey # MA011  
New York # 11393  
Pennsylvania # 68-04426/68-02924  
Rhode Island # LAO00348  
USDA # P330-15-00375  
Vermont # VT-11393



Authorized by:  
Dawn Wojcik  
Laboratory Director



Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 12 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

*Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at [www.spectrum-analytical.com](http://www.spectrum-analytical.com) for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).*

*Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.*

Sample Summary

Work Order: SC50929  
Project: Gulf Terminal - Chelsea, MA  
Project Number: [none]

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
SC50929-01	Outfall 003	Surface Water	06-Oct-18 14:10	08-Oct-18 17:45
SC50929-02	Trip Blanks -1/-2	Trip Blank	06-Oct-18 00:00	08-Oct-18 17:45

**CASE NARRATIVE:**

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.4 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

**There is no relevant protocol-specific QC and/or performance standards non-conformances to report.**

## Sample Acceptance Check Form

Client: Gulf Oil L.P.  
Project: Gulf Terminal - Chelsea, MA / [none]  
Work Order: SC50929  
Sample(s) received on: 10/8/2018

*The following outlines the condition of samples for the attached Chain of Custody upon receipt.*

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were custody seals present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were custody seals intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Were samples received at a temperature of $\leq 6^{\circ}\text{C}$ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples refrigerated upon transfer to laboratory representative?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were sample containers received intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples accompanied by a Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did sample container labels agree with Chain of Custody document?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were samples received within method-specific holding times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Summary of Hits

Lab ID: SC50929-01

Client ID: Outfall 003

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Total Suspended Solids	27.7		0.7	mg/l	SM2540D (11)

*Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.*

Sample Identification**Outfall 003**

SC50929-01

Client Project #

[none]

Matrix

Surface Water

Collection Date/Time

06-Oct-18 14:10

Received

08-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

**Semivolatile Organic Compounds by GCMS**SVOCs by SIMPrepared by method SW846 3510C

50-32-8	Benzo (a) pyrene	< 0.051		µg/l	0.051	0.020	1	SW846 8270D SIM	11-Oct-18	19-Oct-18	MSL	1813545	
91-20-3	Naphthalene	< 0.051		µg/l	0.051	0.022	1	"	"	"	"	"	

Surrogate recoveries:

205440-82-0	Benzo (e) pyrene-d12	42			30-130 %			"	"	"	"	"	
-------------	----------------------	----	--	--	----------	--	--	---	---	---	---	---	--

**Extractable Petroleum Hydrocarbons**Prepared by method General Preparation SVOC

	Oil & Grease	< 1.03	OG	mg/l	1.03	0.943	1	EPA 1664B	13-Oct-18	16-Oct-18	JB	1813670	X
<b>General Chemistry Parameters</b>													
	pH	7.11	pH	pH Units			1	ASTM D 1293-99B	09-Oct-18 17:00	09-Oct-18 17:30	BD	1813488	X
	Total Suspended Solids	27.7		mg/l	0.7	0.3	1	SM2540D (11)	10-Oct-18	12-Oct-18	CMB	1813501	X

**Subcontracted Analyses**Subcontracted AnalysesPrepared by method SW8260C*Analysis performed by Phoenix Environmental Labs, Inc. \* - MACT007*

71-43-2	Benzene	< 1.0		ug/l	1.0	1.0	1	SW8260C	06-Oct-18 14:10	09-Oct-18 21:52	M-CT007	451161A	
91-20-3	Naphthalene	< 5.0		ug/l	5.0	5.0	1	"	"	"	"	"	

*This laboratory report is not valid without an authorized signature on the cover page.*

Sample Identification**Trip Blanks -1/-2**

SC50929-02

Client Project #

[none]

Matrix

Trip Blank

Collection Date/Time

06-Oct-18 00:00

Received

08-Oct-18

<i>CAS No.</i>	<i>Analyte(s)</i>	<i>Result</i>	<i>Flag</i>	<i>Units</i>	<i>*RDL</i>	<i>MDL</i>	<i>Dilution</i>	<i>Method Ref.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Analyst</i>	<i>Batch</i>	<i>Cert.</i>
----------------	-------------------	---------------	-------------	--------------	-------------	------------	-----------------	--------------------	-----------------	-----------------	----------------	--------------	--------------

**Subcontracted Analyses**Subcontracted AnalysesPrepared by method SW8260C*Analysis performed by Phoenix Environmental Labs, Inc. \* - MACT007*

71-43-2	Benzene	< 1.0		ug/l	1.0	1.0	1	SW8260C	06-Oct-18	09-Oct-18 21:05	M-CT007	451161A	
91-20-3	Naphthalene	< 5.0		ug/l	5.0	5.0	1	"	"	"	"	"	

# Semivolatile Organic Compounds by GCMS - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b><u>SW846 8270D SIM</u></b>										
<b>Batch 1813545 - SW846 3510C</b>										
<b><u>Blank (1813545-BLK2)</u></b>					<u>Prepared: 11-Oct-18 Analyzed: 15-Oct-18</u>					
Benzo (a) pyrene	< 0.050		µg/l	0.050						
Naphthalene	< 0.050		µg/l	0.050						
<i>Surrogate: Benzo (e) pyrene-d12</i>	<i>0.500</i>		µg/l		<i>1.00</i>		<i>50</i>	<i>30-130</i>		
<b><u>LCS (1813545-BS2)</u></b>					<u>Prepared: 11-Oct-18 Analyzed: 15-Oct-18</u>					
Benzo (a) pyrene	<b>0.831</b>		µg/l	0.050	1.00		83	40-140		
Naphthalene	<b>0.764</b>		µg/l	0.050	1.00		76	40-140		
<i>Surrogate: Benzo (e) pyrene-d12</i>	<i>0.480</i>		µg/l		<i>1.00</i>		<i>48</i>	<i>30-130</i>		
<b><u>LCS Dup (1813545-BSD2)</u></b>					<u>Prepared: 11-Oct-18 Analyzed: 15-Oct-18</u>					
Benzo (a) pyrene	<b>0.884</b>		µg/l	0.050	1.00		88	40-140	6	20
Naphthalene	<b>0.758</b>		µg/l	0.050	1.00		76	40-140	0.8	20
<i>Surrogate: Benzo (e) pyrene-d12</i>	<i>0.470</i>		µg/l		<i>1.00</i>		<i>47</i>	<i>30-130</i>		



# Extractable Petroleum Hydrocarbons - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b><u>EPA 1664B</u></b>										
<b>Batch 1813670 - General Preparation SVOC</b>										
<b><u>Blank (1813670-BLK1)</u></b>					<u>Prepared: 13-Oct-18 Analyzed: 16-Oct-18</u>					
Oil & Grease	< 1.00		mg/l	1.00						
<b><u>LCS (1813670-BS1)</u></b>					<u>Prepared: 13-Oct-18 Analyzed: 16-Oct-18</u>					
Oil & Grease	<b>32.2</b>		mg/l	1.00	39.8		81	78-114		

## General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b><u>ASTM D 1293-99B</u></b>										
<b>Batch 1813488 - General Preparation</b>										
<b><u>Reference (1813488-SRM1)</u></b>					<u>Prepared &amp; Analyzed: 09-Oct-18</u>					
pH	<b>6.02</b>		pH Units		6.00		100	97.5-102.5		
<b><u>Reference (1813488-SRM2)</u></b>					<u>Prepared &amp; Analyzed: 09-Oct-18</u>					
pH	<b>5.99</b>		pH Units		6.00		100	97.5-102.5		
<b><u>SM2540D (11)</u></b>										
<b>Batch 1813501 - General Preparation</b>										
<b><u>Blank (1813501-BLK1)</u></b>					<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>					
Total Suspended Solids	< 0.5		mg/l	0.5						
<b><u>LCS (1813501-BS1)</u></b>					<u>Prepared: 10-Oct-18 Analyzed: 12-Oct-18</u>					
Total Suspended Solids	<b>94.0</b>		mg/l	10.0	100		94	90-110		

## Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b><u>SW8260C</u></b>										
<b>Batch 451161A - SW8260C</b>										
<b><u>BLK (CB68201-BLK)</u></b>					<u>Prepared: Analyzed: 09-Oct-18</u>					
Naphthalene	ND		ug/l	1.0			ND	-		
Benzene	ND		ug/l	0.70			ND	-		
<b><u>LCS (CB68201-LCS)</u></b>					<u>Prepared: Analyzed: 09-Oct-18</u>					
Benzene	46.04		ug/l	0.70	50		92	70-130		30
Naphthalene	48.19		ug/l	1.0	50		96	70-130		30
<b><u>LCSD (CB68201-LCSD)</u></b>					<u>Prepared: Analyzed: 09-Oct-18</u>					
Naphthalene	52.27		ug/l	1.0	50		105	70-130	9.0	30
Benzene	46.18		ug/l	0.70	50		92	70-130	0.0	30

## Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
OG	The required Matrix Spike and Matrix Spike Duplicate (MS/MSD) for Oil & Grease method 1664B can only be analyzed when the client has submitted sufficient sample volume. An extra liter per MS/MSD is required to fulfill the method QC criteria. Please refer to Chain of Custody and QC Summary (MS/MSD) of the Laboratory Report to verify ample sample volume was submitted to fulfill the requirement.
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.



Spectrum Analytical

## CHAIN OF CUSTODY RECORD

Special Handling:

☒ Standard TAT - 7 to 10 business days☐ Rush TAT - Date Needed: \_\_\_\_\_All TATs subject to laboratory approval  
Min. 24-hr notification needed for rushes  
Samples disposed after 30 days unless otherwise instructed.Page 1 of 1

Report To: <u>Adam Adams</u>		Invoice To: <u>Christopher Gill</u>		Project No: _____	
<u>Guile Oil</u>		<u>Guile Oil</u>		Site Name: <u>Guile Chdsae Terminal</u>	
<u>281 Eastern Ave.</u>		<u>80 Williams Street Suite 400</u>		Location: <u>Chelsae</u>	
<u>Chelsen, MA 02150</u>		<u>Wellesley MA 02481-3705</u>		State: <u>MA</u>	
Telephone #: <u>617-884-5980</u>		P.O. No.: _____		Quote #: _____	
Project Mgr: <u>A. Adams</u>		Sample(s): <u>Aleksandar Markovic</u>			
F=Field Filtered 1=Na <sub>2</sub> SO <sub>3</sub> 2=HCl 3=H <sub>2</sub> SO <sub>4</sub> 4=HNO <sub>3</sub> 5=NaOH 6=Ascorbic Acid 7=CH <sub>3</sub> OH 8=NaHSO <sub>4</sub> 9=Deionized Water 10=H <sub>3</sub> PO <sub>4</sub> 11= _____ 12= _____					
DW=Drinking Water GW=Groundwater <u>SW=Surface Water</u> WW=Waste Water					
O=Oil SO=Soil SL=Sludge A=Indoor/ Ambient Air SG=Soil Gas					
X1= _____ X2= _____ X3= _____					
G=Grab C=Composite					
Lab ID:	Sample ID:	Date:	Time:	Type	Matrix
<b>Containers</b>					
# of VOA Vials					
# of Amber Glass					
# of Clear Glass					
# of Plastic					
<b>Analysis</b>					
List Preservative Code below: <u>2</u> <u>3</u>					
QA/QC Reporting Notes: * additional charges may apply					
MA DEP MCP CAM Report? <input type="checkbox"/> Yes <input type="checkbox"/> No					
CT DPH RCP Report? <input type="checkbox"/> Yes <input type="checkbox"/> No					
<input type="checkbox"/> Standard <input type="checkbox"/> No QC					
<input type="checkbox"/> DQA* <input type="checkbox"/> ASP A* <input type="checkbox"/> ASP B* <input type="checkbox"/> NJ Reduced* <input type="checkbox"/> NJ Full* <input type="checkbox"/> Tier II* <input type="checkbox"/> Tier IV*					
Other: _____					
State-specific reporting standards: _____					
Check if chlorinated <input type="checkbox"/>					
Temp °C					
Observed <u>14</u>					
Corrected factor <u>0</u>					
Corrected <u>14</u>					
IR ID # <u>1</u>					
Condition upon receipt: <input type="checkbox"/> Ambient <input type="checkbox"/> Iced <input checked="" type="checkbox"/> Refrigerated <input type="checkbox"/> DI VOA Frozen <input type="checkbox"/> Soil Jar Frozen					
Custody Seals: <input type="checkbox"/> Present <input type="checkbox"/> Intact <input type="checkbox"/> Broken					
E-mail to: <u>Please send report to jennifer.atkins@accion.com</u>					
Received by: <u>[Signature]</u> 10/8/18 10:53					
Relinquished by: <u>[Signature]</u> 10/8/18 15:00					
10/8/18 17:45					



**Spectrum Analytical**

# CHAIN OF CUSTODY RECORD

Page 1 of 1

### Special Handling:

☒ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed:

All TATs subject to laboratory approval  
Min. 24-hr notification needed for rushes  
Samples disposed after 30 days unless otherwise instructed.

				IR ID #	1
Condition upon receipt:					
<input type="checkbox"/> Ambient <input type="checkbox"/> Iced <input checked="" type="checkbox"/> Refrigerated <input type="checkbox"/> DI VOA Frozen <input type="checkbox"/> Soil Jar Frozen	Custody Seals:	<input type="checkbox"/> Present <input type="checkbox"/> Intact <input type="checkbox"/> Broken			

## Batch Summary

### **1813488**

#### *General Chemistry Parameters*

1813488-SRM1  
1813488-SRM2  
SC50929-01 (Outfall 003)

### **1813501**

#### *General Chemistry Parameters*

1813501-BLK1  
1813501-BS1  
SC50929-01 (Outfall 003)

### **1813545**

#### *Semivolatile Organic Compounds by GCMS*

1813545-BLK2  
1813545-BS2  
1813545-BSD2  
SC50929-01 (Outfall 003)

### **1813670**

#### *Extractable Petroleum Hydrocarbons*

1813670-BLK1  
1813670-BS1  
SC50929-01 (Outfall 003)

### **451161A**

#### *Subcontracted Analyses*

CB68201-BLK  
CB68201-LCS  
CB68201-LCSD  
SC50929-01 (Outfall 003)  
SC50929-02 (Trip Blanks -1/-2)

### **S821213**

#### *Semivolatile Organic Compounds by GCMS*

S821213-CAL1  
S821213-CAL2  
S821213-CAL3  
S821213-CAL4  
S821213-CAL5  
S821213-CAL6  
S821213-CAL7  
S821213-CAL8  
S821213-CAL9  
S821213-ICV1  
S821213-LCV1  
S821213-LCV2  
S821213-TUN1

### **S822641**

#### *Semivolatile Organic Compounds by GCMS*

S822641-CCV1

S822641-TUN1

### **S822744**

#### *Semivolatile Organic Compounds by GCMS*

S822744-CCV1  
S822744-TUN1